

Project Narratives

The Town of Southborough received funding in the amount of \$200,000.00 through the 2020 Green Communities Competitive Grant Program. These funds were used to finance two energy reduction projects in the form of HVAC motor replacements and VFD installations and three LED lighting conversion projects. The two HVAC/VFD projects occurred at Southborough's Margaret A. Neary School and the Southborough Library. The three LED lighting conversion projects occurred at Southborough's Mary E. Finn School, P. Brent Trottier School, and Albert S. Woodward School. The narratives located below are in relation to each of the before mentioned projects.

Project 1:

Premium Efficient Motor Replacements and Installation of Variable Frequency Drives at Southborough's Margaret A. Neary School

Building Name and Location: Margaret A. Neary School, 53 Parkerville Road, Southborough, MA 01772

Purpose: The purpose of the measures is to increase the overall electrical operational efficiency of the air handling portion the Margaret A. Neary School HVAC system. By replacing three air handling fan motors on the school's HVAC system with premium efficient motors and installing variable frequency drives (VFD's), it is anticipated that the accomplishment of precise control over the operational speed of the new premium efficient motors to match load requirements will result in substantial energy savings.

Benefits: The quantitative and qualitative benefits that will be realized by the implementation of the proposed measures include reduced energy consumption and enhanced comfort levels for building occupants.

Energy Consumption, Costs, Anticipated Impact and Cost Savings: The total FY19 energy consumption for the subject property was 3,316 MMBTU's. During this time period the subject property used 289,040 kWh of electricity and 23,293 therms of natural gas. It is anticipated that the proposed measures will result in an annual energy reduction of 8,093 kWh of electricity. This equates to 27.61 MMBTU's, which represents an approximately 2.80% reduction in electricity consumption and an approximately .83% reduction in overall energy consumption within the subject property.

Project 2:

Premium Efficient Motor Replacement and Installation of Variable Frequency Drive at the Southborough Library

Building Name and Location: Southborough Library, 25 Main Street, Southborough, MA 01772

Purpose: The purpose of the measures is to increase the overall electrical operational efficiency of the air handling portion the Southborough Library HVAC system. By replacing the 3HP return air fan motor on the Southborough Library's HVAC system with a premium efficient motor and installing a variable frequency drive (VFD), it is anticipated that the accomplishment of precise control over the operational speed of the new premium efficient motor to match load requirements will result in substantial energy savings.

Benefits: The quantitative and qualitative benefits that will be realized by the implementation of the proposed measures include reduced energy consumption and enhanced comfort levels for building occupants.

Energy Consumption, Costs, Anticipated Impact and Cost Savings: The total FY19 energy consumption for the subject property was 1,002 MMBTU's. During this time period the subject property used 108,400 kWh of electricity and 6,325 therms of natural gas. It is anticipated that the proposed measures will result in an annual energy reduction of 4,473 kWh of electricity. This equates to 15.26 MMBTU's, which represents an approximately 4.13% reduction in electricity consumption and an approximately 1.52% reduction in overall energy consumption within the subject property.

Project 3:

Phase 2 of Lighting Measures at Southborough's Mary E. Finn School

Building Name and Location: Mary E. Finn School, 60 Richards Road, Southborough, MA 01772

Purpose: Phase 1 of lighting measures within Southborough's Mary E. Finn School was completed in 2019. The purpose of this second of an anticipated total of 4 phases of lighting measures within this subject property will be to provide building occupants with highly efficient lighting sources, many of which will have adjustable Kelvin color temperatures and intensity levels, in order to create a better atmosphere for the educational process. In addition to creating an environment that is highly conducive to learning, the proposed measures will also generate substantial reductions in energy consumption.

Benefits: The quantitative and qualitative benefits that will be realized by the implementation of the proposed measures include reduced energy consumption and enhanced eye comfort levels for building occupants.

Energy Consumption, Costs, Anticipated Impact and Cost Savings: The total FY19 energy consumption for the subject property was 4,256 MMBTU's. During this time period the subject property used 311,120 kWh of electricity and 22,984 gallons/31,832 therms of heating oil. It is anticipated that the proposed measures will result in an annual energy reduction of 34,045 kWh of electricity. This equates to 116.17 MMBTU's, which represents an approximately 10.94% reduction in electricity consumption and an approximately 2.73% reduction in overall energy consumption within the subject property.

Project 4:

Phase 2 of Lighting Measures at Southborough's P. Brent Trottier School

Building Name and Location: P. Brent Trottier School, 49 Parkerville Road, Southborough, MA 01772

Purpose: Phase 1 of lighting measures within Southborough's P. Brent Trottier School was completed in 2019. The purpose of this second of an anticipated total of 5 phases of lighting measures within this subject property will be to provide building occupants with highly efficient lighting sources, many of which will have adjustable Kelvin color temperatures and intensity levels, in order to create a better atmosphere for the educational process. In addition to creating an environment that is highly conducive to learning, the proposed measures will also generate substantial reductions in energy consumption.

Benefits: The quantitative and qualitative benefits that will be realized by the implementation of the proposed measures include reduced energy consumption and enhanced eye comfort levels for building occupants.

Energy Consumption, Costs, Anticipated Impact and Cost Savings: The total FY19 energy consumption for the subject property was 9,226 MMBTU's. During this time period the subject property used 627,400 kWh of electricity and 70,855 therms of natural gas. It is anticipated that the proposed measures will result in an annual energy reduction of 25,262 kWh of electricity. This equates to 86.20 MMBTU's, which represents an approximately 4.03% reduction in electricity consumption and an approximately .93% reduction in overall energy consumption within the subject property.

Project 5:

Phase 2 of Lighting Measures at Southborough's Albert S. Woodward School

Building Name and Location: Albert S. Woodward School, 28 Cordaville Road, Southborough, MA 01772

Purpose: Phase 1 of lighting measures within Southborough's Albert S. Woodward School was completed in 2019. The purpose of this second and final phase of lighting measures within this subject property will be to provide building occupants with highly efficient lighting sources, many of which will have adjustable Kelvin color temperatures and intensity levels, in order to create a better atmosphere for the educational process. In addition to creating an environment that is highly conducive to learning, the proposed measures will also generate substantial reductions in energy consumption.

Benefits: The quantitative and qualitative benefits that will be realized by the implementation of the proposed measures include reduced energy consumption and enhanced eye comfort levels for building occupants.

Energy Consumption, Costs, Anticipated Impact and Cost Savings: The total FY19 energy consumption for the subject property was 3,343 MMBTU's. During this time period the subject property used 325,200 kWh of electricity and 22,336 therms of natural gas. It is anticipated that the proposed measures will result in an annual energy reduction of 68,643 kWh of electricity. This equates to 234.22 MMBTU's, which represents an approximately 21.11% reduction in electricity consumption and an approximately 7.01% reduction in overall energy consumption within the subject property.